

PTO/SB/21 (09-04)

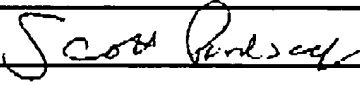
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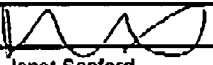
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TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	09/425,234	
	Filing Date	October 25, 1999	
	First Named Inventor	RABIE	
	Art Unit	1723	
	Examiner Name	MENON, Krishnan S.	
Total Number of Pages in This Submission	5	Attorney Docket Number	4320-91

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Appl. No : 09/425,234 Confirmation No.: 9266
Applicant : RABIE et al.
Filed : October 25, 1999
Title : MAINTENANCE CLEANING FOR MEMBRANES

TC./A.U. : 1723
Examiner : MENON, Krishnan S.

Docket No. : 4320-091
Customer No. : 001059

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May 12, 2006

REPLY BRIEF

The Appellants make the following statements in reply to the Response to Arguments section of the Examiner's Answer. The Appellants do not admit any points made in the Examiner's Answer that are not specifically addressed below.

Anticipation Rejection of Claims 5-10 and 13-17

Much of the dispute between the Appellant and the Examiner relates to the interpretation of column 11, lines 35-43, of the Smith reference which are repeated below.

The low pressure may be substantially constant, or it may be deliberately varied within a period of less than 5 sec, preferably less than 1 sec. When pulsed to achieve pulsed diffusion, the pressure exerted by the cleaning fluid may vary from a minimum of about 100 kPa (1bar, at least 0.1 psig, preferably 0.5 psig) for a "loose" MF (5 µm) to a maximum of 100 psig for a "tight" UF (50Å), within less than 1 sec, which pulsing affords diffusion-controlled permeation.

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The Appellants submit that this citation refers to a pressure varied from at least 0.1 psig to a higher value in a cycle of less than 5 seconds. The Appellants believe that their interpretation is correct because the cited passage first refers to a low pressure that may be varied and then states that the low pressure may be varied from a minimum of 0.1 psig to a maximum. There is no reference to the pressure being zero, instead it is always "low". The references to tight and loose membranes teach that the absolute minimum pressure applies when the low pressure part of the cycle is applied to a loose membrane, while the absolute maximum pressure applies when the high pressure part of the cycle is applied to tight membranes.

The Examiner's Answer argues that the 0.1 psig is not a minimum pressure, but rather a maximum for a loose membrane, "with the low pressure of the cycle not stated, and again, could be zero". The Appellants submit that this interpretation is not correct because the 0.1 psig value is never referred to as a minimum. Further, under the Examiner's interpretation, there is no disclosure of a minimum pressure. While the Examiner argues that an absence of such disclosure means that a minimum pressure, "could be zero", the Appellants submit that the Examiner's argument is inconsistent with the reference to a pressure that may vary from a minimum to a maximum. Further, even if the Examiner is correct that a minimum pressure is not stated, then the Smith reference fails to disclose an element of the claim. The Examiner's argument that the unstated minimum pressure, "could be zero" is not a sufficient basis for an anticipation rejection.

The Examiner's argument that "if the low pressure was 100 kPa [0.1 psig] in the pulse cycles as the appellant argues, the MF membrane would be gushing the cleaning chemicals out" is unsupported by any evidence and fails to raise a prima facie case. The Smith reference suggests that pressures of up to 5 psig can be applied continuously (column 16, line 60 to column 17, line 6) with no such gushing and within the general guidelines given at column 11, lines 45-60.

The Examiner also makes various statements regarding bubble point pressures. The Appellants submit that these statements do not raise a prima facie case. The Appellants

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agree that all pressures in the Smith reference are below the bubble point of the membranes. The Examiner argues that a gaseous cleaning chemical is disclosed as a possibility in the Smith reference, that a gas applied below the bubble point will not flow through the membrane walls, and therefore the Smith reference discloses a stopped or no flow situation. The Appellants submit that this argument is factually incorrect since the bubble point pressure only refers to flow of a gas as a bubble breaking through a pore. A gas can flow by diffusion through a pore at less than the bubble point pressure. But more importantly, claim 5 refers to flow to the header being stopped in the pulse. The Examiner's argument, if correct, would only establish that there would be no flow through the membrane even when the gas is applied to the header. Such a proposition does not relate to the claimed limitation.

Regarding the Examiner's arguments in relation to dead end flow on page 1 of the Answer, the Appellants submit that the Examiner's reference to column 17, lines 50-56 and column 11, line 38 do not disclose a process having a combination of steps (b) and (f) of claim 5. The Examiner's argument that diffusion controlled flow "could also be pulsed" is not evidence of disclosure sufficient to support an anticipation rejection.

Regarding claim 8, the Appellant does not need to show the "criticality" of a limitation to overcome an anticipation rejection. The Examiner's further references to result-effective variables are also not applicable to anticipation rejections and do not satisfy the requirements of MPEP 2144.63II A or B for an obviousness rejection.

Regarding claims 7-10, the Examiner states that, "there is no reason why the data point 5 can not be a cleaning event performed between 1 and 7 times per week". The Appellants submit that this statement in no way supports an anticipation rejection. The fact is that the Smith reference does not disclose data point 5 being repeated between 1 and 7 times per week. The Examiner's statement that all cleaning events need not be identical is also irrelevant since the Smith reference still fails to disclose even varying cleaning events, each meeting the requirements of claim 5, being performed between 1 and 7 times per week. Further, even data point 5 does not comply with part (b) of claim 5.

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Regarding claim 13, the general statements in column 14, lines 33-40, of the Smith reference do not anticipate the claim.

Regarding claim 14, the Appellants submit that column 11, lines 22-29 and 62-63 do not describe a maximum pressure for a pulse, in a dead ended or recirculated flow, in the range of 5 to 55 kPa, based on the discussion relating to claim 5.

Regarding claim 15, the Assignee's membranes have changed over the years, and ownership by the same assignee is not evidence that flow through the membrane walls in the Smith reference would necessarily be within the claimed values. Further, membrane length and internal diameter are relevant because the flow in the Smith reference recirculates through the membranes. In a recirculated flow, pressure drop in the flow from one end of the membrane to the other is related to membrane length and internal diameter. The size of this pressure drop effects the amount of pressure remaining from the applied pressure to push fluids through the membrane wall. Nothing in the Examiner's answer satisfies the Examiner's burden of proof to establish a prima facie case.


Regarding claims 16 and 17, teaching that a step is unnecessary is not evidence of anticipation of a process having that step.

Rejection Under 103 of Claims 11 and 12

The Examiner has the onus of establishing a prima facie case of obviousness. The Appellants submit that the Examiner has not met that onus.

Respectfully submitted,

BERESKIN & PARR

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